

#2

Substitute for form 1449A/PTO

Complete if Known

INFORMATION DISCLOSURE STATEMENT BY APPLICANTS

(use as many sheets as necessary)

Sheet 1 of 7

Application Number	To be assigned
Filing Date	Herewith
Applicants	Sumilla; Ingram
Group Art Unit	
Examiner Name	
Attorney Docket Number	202-0405

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	DOCUMENT NUMBER	Kind Code ² (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Rel Figures Appear
		3,696,318		Boyd et al	10-10-72	
		3,969,932		Rieger et al	07-20-76	
		4,033,122		Masaki et al	07-05-77	
		4,178,883		Herth	12-18-79	
		4,251,989		Norimatsu et al	02-24-81	
		4,622,809		Abthoff et al	11-18-86	
		4,854,123		Inoue et al	08-08-89	
		4,884,066		Miyata et al	11-28-89	
		4,913,122		Uchida et al	04-03-90	
		5,009,210		Nakagawa et al	04-23-91	
		5,088,281		Izutani et al	02-18-92	
		5,097,700		Nakane	03-24-92	
		5,165,230		Kayanuma et al	11-24-92	
		5,174,111		Nomura et al	12-29-92	
		5,189,876		Hirota et al	03-02-93	
		5,201,802		Hirota et al	04-13-93	
		5,209,061		Takeshima	05-11-93	
		5,222,471		Stueven	06-29-93	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Foreign Patent Document			NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
		DE	196 07 151 C1		Siemens AG	07-10-97	
		EP	0 351 197 A2		Johnson Matthey	01-17-90	
		EP	0 444 783 A1		Lucas Industries	09-04-91	

EXAMINER

DATE CONSIDERED

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not consid
Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must preced serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.
⁶Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

Complete if Known

INFORMATION DISCLOSURE
STATEMENT BY APPLICANTS

(use as many sheets as necessary)

Sheet 2 of 7

Application Number To be assigned

Filing Date Herewith

Applicants Sumilla; Ingram

Group Art Unit

Examiner Name

Attorney Docket Number 202-0405

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	DOCUMENT NUMBER	Kind Code ² (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Rel Figures Appear
		5,233,830		Takeshima et al	08-10-93	
		5,267,439		Raff et al	12-07-93	
		5,270,024		Kasahara et al	12-14-93	
		5,272,871		Oshima et al	12-28-93	
		5,325,664		Seki et al	07-05-94	
		5,331,809		Takeshima et al	07-26-94	
		5,335,538		Blischke et al	08-09-94	
		5,357,750		Ito et al	10-25-94	
		5,377,484		Shimizu	01-03-95	
		5,402,641		Katoh et al	04-04-95	
		5,412,945		Katoh et al	05-09-95	
		5,412,946		Oshima et al	05-09-95	
		5,414,994		Cullen et al	05-16-95	
		5,423,181		Katoh et al	06-13-95	
		5,433,074		Seto et al	07-18-95	
		5,437,153		Takeshima et al	08-01-95	
		5,448,887		Takeshima	09-12-95	
		5,450,722		Takeshima et al	09-12-95	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Foreign Patent Document			NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	2-207159		Toyota	08-16-90	
		JP	2-30915		Toyota	02-01-90	
		JP	2-33408		Toyota	02-02-90	
		JP	3-135417		Matsushita Elec.	06-10-91	
		JP	5-106493		Honda	04-27-93	

EXAMINER

DATE CONSIDERED

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not consid
Include copy of this form with next communication to applicant.¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached. ³Enter Office that issued the
document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede
serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible.⁶Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

Complete If Known

INFORMATION DISCLOSURE STATEMENT BY APPLICANTS

(use as many sheets as necessary)

Sheet 3 of 7

Application Number	To be assigned
Filing Date	Herewith
Applicants	Sumilla; Ingram
Group Art Unit	
Examiner Name	
Attorney Docket Number	202-0405

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	DOCUMENT NUMBER	Kind Code ² (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Rel Figures Appear
		5,472,673		Goto et al	12-05-95	
		5,473,887		Takeshima et al	12-12-95	
		5,473,890		Takeshima et al	12-12-95	
		5,483,795		Katoh et al	01-16-96	
		5,544,482		Matsumoto et al	08-13-96	
		5,551,231		Tanaka et al	09-03-96	
		5,577,382		Kihara et al	11-26-96	
		5,595,060		Togal et al	01-21-97	
		5,598,703		Hamburg et al	02-04-97	
		5,622,047		Yamashita et al	04-22-97	
		5,655,363		Ito et al	08-12-97	
		5,657,625		Koga et al	08-19-97	
		5,693,877		Ohsuga et al	12-02-97	
		5,713,199		Takeshima et al	02-03-98	
		5,715,679		Asanuma et al	02-10-98	
		5,724,808		Ito et al	03-10-98	
		5,732,554		Sasaki et al	03-31-98	
		5,735,119		Asanuma et al	04-07-98	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Foreign Patent Document			NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	5-106494		Honda	04-27-93	
		JP	5-26080		Mitsubishi Motors	02-02-93	
		JP	62-117620		Nippon Shokubai	05-29-87	
		JP	8-264787		Nissan Motor	09-20-94	
		JP	62-97630		Nippon Shokubai	05-07-87	

EXAMINER

DATE CONSIDERED

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not consid
Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.
*Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

Complete if Known

INFORMATION DISCLOSURE STATEMENT BY APPLICANTS

(use as many sheets as necessary)

Sheet 4 of 7

Application Number To be assigned

Filing Date Herewith

Applicants Surnilla; Ingram

Group Art Unit

Examiner Name

Attorney Docket Number 202-0405

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	DOCUMENT NUMBER	Kind Code ² (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Rel Figures Appear
		5,740,669		Kinugasa et al	04-21-98	
		5,743,084		Hepburn	04-28-98	
		5,746,049		Cullen et al	05-05-98	
		5,746,052		Kinugasa et al	05-05-98	
		5,752,492		Kato et al	05-19-98	
		5,792,436		Feeley et al	08-11-98	
		5,842,340		Bush et al	12-01-98	
		5,865,027		Hanafusa et al	02-02-99	
		5,970,707		Sawada et al	10-26-99	
		5,974,793		Kinugasa et al	11-02-99	
		5,983,627		Asik	11-16-99	
		6,014,859		Yoshizaki et al	01-18-00	
		4,036,014		Ariga	07-19-77	
		4,964,272		Kayanuma	10-23-90	
		5,410,873		Tashiro	05-02-95	
		5,412,945		Kato et al	05-09-95	
		5,419,122		Taba et al	05-30-95	
		5,437,153		Takeshima et al	08-01-95	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Foreign Patent Document			NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	64-53042		Mitsubishi	03-01-89	
		JP	6-58139		Nissan Motor	03-01-94	
		JP	7-97941		Kazuhiro et al	04-11-95	
		EP	0 351 197 A1		Johnson Matthey	01-17-90	
		EP	0 503 882 A1		S. Takeshima	09-16-92	

EXAMINER

DATE CONSIDERED

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not consid
Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible.
⁶Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANTS**

(use as many sheets as necessary)

Sheet 5 of 7

Complete if Known

Application Number	To be assigned
Filing Date	Herewith
Applicants	Sumilla; Ingram
Group Art Unit	
Examiner Name	
Attorney Docket Number	202-0405

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	DOCUMENT NUMBER	Kind Code ² (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Re Figures Appear
		5,452,576		Hamburg et al	09-26-95	
		5,483,795		Kato et al	01-16-96	
		5,626,014		Hepburn et al	05-06-97	
		5,626,117		Wright et al	05-06-97	
		5,713,199		Takeshima et al	02-03-98	
		5,715,679		Asanuma et al	02-10-98	
		5,722,236		Cullen et al	03-03-98	
		5,771,685		Hepburn	06-30-98	
		5,771,686		Pischinger et al	06-30-98	
		5,778,666		Cullen et al	07-14-98	
		5,802,843		Kurihara et al	09-08-98	
		5,803,048		Yano et al	09-08-98	
		5,832,722		Cullen et al	11-10-98	
		5,938,715		Zang et al	08-17-99	
		5,974,788		Hepburn et al	11-02-99	
		5,974,791		Hirota et al	11-02-99	
		5,922,142		Pott	11-30-99	
		5,996,338		Hirota	12-07-99	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Foreign Patent Document			NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
		EP	0 580 389 A1		Toyota	01-26-94	
		WP	98/27322		Ford Motor Co.	06-25-98	
		JP	7-166851		Toyota	06-27-95	

EXAMINER

DATE CONSIDERED

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not consid
Include copy of this form with next communication to applicant.¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached. ³Enter Office that issued the
document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede
serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.⁶Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 7 of 7

Complete if Known

Application Number	To be assigned
Filing Date	Herewith
Applicants	Sumilla; Ingram
Group Art Unit	
Examiner Name	
Attorney Docket Number	202-0405

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
		JOE THEIS et al, "An Air/Fuel Algorithm To Improve The NOx Conversion Of Copper-Based Catalysts", SAE Technical Paper No. 922251, October 19-22, 1992, pp. 77-89.
		Y. KANEKO et al, "Effect of Air-Fuel Ratio Modulation on Conversion Efficiency of Three-Way Catalysts", INTER-INDUSTRY EMISSION CONTROL PROGRAM 2 (IIEC-2) PROGRESS REPORT NO. 4, SAE Technical Paper No. 780607, June 5-9, 1978, pp. 119-127.
		ALAN F. DWELL, "Engineered Control Strategies For Improved Catalytic Control of NOx In Lean Burn Applications", SAE Technical Paper No. 881595, 1998, pp. 1-11.
		ALLEN H. MEITZLER, "Application of Exhaust-Gas-Oxygen Sensors to the Study of Storage Effects in Automotive Three-Way Catalysts", SAE 800019, February 25-29, 1980.
		W.H. HOLL, "Air Fuel Control to Reduce Emissions, I. Engine-Emissions Relationships", SAE 800051, February 25-29, 1980.
		WEI-MING WANG, "Air-Fuel Control to Reduce Emissions, II. Engine-Catalyst Characterization Under Cyclic Conditions", SAE 800052, February 25-29, 1980.
		CHRISTOPHER D. DE BOER et al, "Engineered Control Strategies for Improved Catalytic Control of NOx In Lean Burn Applications", SAE 881595, October 10-13, 1988.
		TOSHIAKI YAMAMOTO et al, "Dynamic Behavior Analysis of Three Way Catalytic Reaction", JSAE 882072 - 882166

EXAMINER

DATE CONSIDERED

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not consid
Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.